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ABSTRACT

This report provides a summary record of the development and evaluation of a training package product that includes three separate sets of training materials developed to increase the skill, knowledge, and understanding of school personnel in the area of instructional planning and management. Instructional planning is defined generally as that area of educational administration concerned with providing educaticnal opportunities for children through the establishment of instructional program purposes, the design and implementation of programs, and the evaluation of instructional programs. This package is directed toward establishing instructional program purposes in three units--setting goals, analyzing problems, and deriving objectives. Each unit is described, its development is delineated, and the evaluation results are announced. (Author/DW)

FOREWORD

This report is intended to provide a summary record of the development and evaluation of one of the products produced by the Educational Management Program. This product is a very major one, consisting of three separate training units; it was also the first in what was originally planned as a complete, responsive system directed to improving school instructional planning and management. Reference is made in the report to a number of more detailed reports and memoranda which constitute the documentation of the development and evaluation processes. Because of the product complexity and originality the documentation is quite voluminous, and can not be included with the report. All of the documents referenced are in program files, and most of them have been submitted to various funding agencies that supported the work over the last five years. Only a final evaluation report completed in December 1974 is included as an attachment to this report.

The report has been written primarily for those associated with the National Institute of Education, and possibly some potential users of the product, who need to make judgments about product quality but don't have the time to become familiar in detail with the product itself and the extensive reports prepared during the development and evaluation of the product. The lengthy history of development is described only in sufficient detail to suggest the amount of thought, care, and discipline that went into creation of the units in the product. Evaluation information obtained during development are presented at only the most general level that would accurately reflect the gross strengths and weaknesses of each unit. The final independent evaluation of the units is quoted at greater length, since in the final analysis this is probably the report that should be given greatest weight. More than most reports in educational development, the report that follows is a summary of summaries.

A few readers may find the report valuable as a routing device to locate critical documentation, or to reassure themselves that the procedures were documented. They should keep in mind that only the crucial documents have been cited. There are many more where these came from.

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The Development and Evaluation of

The Determining Instructional Purpose Training Package

The Determining Instructional Purposes Training Package includes three separate sets of training materials developed to increase the skill, knowledge and understanding of school personnel in the area of instructional planning and management. Instructional planning is defined generally as that area of educational administration that is concerned with providing educational opportunities for children. This area may be further defined as involving the establishment of instructional program purposes, the design and implementation of programs and the evaluation of instructional programs. The package is directed to the first of these three functions; the three units are: Setting Goals, Analyzing Problems, and Deriving Objectives.

Intended Users

These materials are intended for those school personnel who are directly concerned with the design or selection of school curricula (instructional programs) to be implemented in classrooms. The specific role titles of such staff will vary from district to district, but most often will include building principals, department heads, district curriculum specialists, and teachers who are serving on curriculum committees. Depending on the size and organization of a school district or system, the package materials may also be found useful by district office administrators other than those with direct curriculum responsibilities, Board of Education members, parents and students. It should be clear that the intended user group can best be defined by function rather than by a particular role or title, and that the group could include staff not necessarily falling under the heading of administrators.

Product Purposes and Description

The goal of this package is to assist in the preparation of school staff in writing more useful statements of goals and objectives for instructional programs. The general objectives for the package are to increase knowledge, comprehension, and skills in the process of (a) selecting long-range goals and translating them into behaviorally stated goal indicators, (b) analyzing instructional problems to compare their importance to the school or district and to determine where the available resources should be applied, and (c) deriving objectives from the high priority goals. Accomplishment of these objectives is judged important to the design of programs and planning for program evaluation if school staff are to have confidence that the resulting programs will be relevant to the school or district needs. Each of the three units that constitute the package is directed to one of these general objectives. The units were, however, developed so that each could be used by itself or in combination with any other of the units, thus enabling potential users to choose the particular unit(s) that seemed most likely to meet the staff training needs they faced. Each unit is described separately below.

Setting Goals. This unit consists of an Introduction and four integrated training modules, and generally requires about twelve to fifteen hours of group training time. There are no audio-visual materials, but auxiliary materials separate from the printed training booklets are used. The four modules are: Deriving District Goals, Refining Goals into Goal Indicators, Screening Sets of Goal Indicators, and Prioritizing Goal Indicators. In using the materials, each participant assumes the role of a member of a special planning team in the "Mid City Unified School District." Working on the team, the participants derive goals for the district, refine these into goal indicators which will meet specified criteria, screen indicators, and establish priorities among the goal

indicators which will be used for further planning of the instructional program. Much of the training in the unit is accomplished through application of definitions and criteria for the goals and goal indicators to the goal establishment problems posed for the simulated school district.

Analyzing Problems. This unit also consists entirely of printed material. It is made up of reading material, a workbook and auxiliary materials. There is active participant involvement in completing the exercises in the workbook. The unit generally requires fifteen to twenty hours of group training time, although most often the upper limit of twenty hours will be approached, if the unit is to be used as designed. There is an Introduction and six modules in the unit; the modules are identified in the form of questions which suggest the content of each module: Module 1 - Which of the problem signals received warrant further consideration? Module 2 - What student outcome problems do the signals imply? Module 3 - What additional information is needed to analyze the problems? Module 4 - How should the information needed to analyze the problems be collected? Module 5 - Are the problems valid? Module 6 - How serious are the problems?

As with the first unit (Setting Goals), participants in the training assume the role of a member of an instructional planning team in the simulated Mid City Unified School District. The training is carried out through the extensive application of definitions, explanations and criteria to the simulated task of identifying and refining problem signals, determining and collecting necessary additional information, and establishing priorities for responding to those problems that are real and serious.

Deriving Objectives. This unit, like the other two, is composed entirely of written materials. Unlike the other two, however, this unit includes programmed learning materials as part of one of the modules; and instead of using the simulated Mid City Unified School District, the unit makes extensive use of

quite artificial educational settings for presenting the problems to be dealt with. The purpose of introducing artificial settings located on other planets is to facilitate an approach that is free of the conditions of ongoing school situations that might trigger "standard" approaches to the problems. Ten to twelve hours are generally required to complete the unit.

The unit consists of four modules: Module 1 - The Goal Refinement Process; Module 2 - Screening Objectives; Module 3 - Analyzing Sets of Curricular Objectives; which is divided into the programmed text referred to above, covering educational taxonomies, and an artificial simulation; and Module 4 - District Planning for Goal Refinement. This unit places somewhat greater stress on an understanding of the processes involved, rather than on detailed definitions and criteria to be applied, although the importance of the latter is not ignored.

Coordinator's Handbook. The Determining Instructional Purposes Package also includes a Coordinator's Handbook which contains material necessary for conducting the training using any of the three units. The material in the Handbook is intended to be sufficient to permit a school staff member to conduct the training, if he or she takes the time in advance to work through the units on his or her own. In other words, no external consultant is needed to conduct the training, nor is any special training needed, provided the Coordinator will take the time to read through the unit as part of the preparation for offering the training.

Development and Testing

These three units as a group were the first instructional planning and management training materials developed by the Laboratory. Consequently, a considerable effort was devoted to needs analysis, conceptualization and planning, and feasibility testing and replanning. The need for this kind of training evolved from work carried out in one of the components of an earlier program directed

at increasing capability of school personnel to use and apply the outcomes of educational research and development. The general specifications for a training unit that would help school staffs identify needs and determine goals and objectives were first set forth in September 1969 (Far West Laboratory, 1969, p. 80). The need for such a unit was based on an extensive pilot study of a procedure to facilitate these purposing functions (Carlisle, Cone, and Whitney). Additionally, reviews of the literature on educational management and school problem solving were carried on continually. Conceptualization and planning for the design of the proposed training unit were carried out in 1970, and indicated that at least three separate training units would probably be required as specifications and unit scope were detailed (Communication Program, January 1970; March 1970). An analysis of needs and system specifications from which the training units could be derived was completed (Banathy and Jenks), and school staff were interviewed extensively (Jenks; Jenks and Gall). A conference of a variety of agencies involved in development of management training was also sponsored by the Educational Managment Program (York). The three units and a schedule for their development were formally identified (Far West Laboratory, 1970) and work started during the latter half of 1970. The units on goal setting and problem analysis were started first, and were developed nearly simultaneously. Feasibility and preliminary testing of these units was completed (Gall and Walker) by the time that work on the unit dealing with objectives was initiated in January 1971.

The main field test of all the units had two major aims: to test their effectiveness in achieving the intended purposes, and to identify specific features of the units that needed final revision prior to publication. The three units were tested separately using non-Laboratory staff as coordinators of the training. The test instruments were designed to provide information on

the achievement of identified knowledge and skill objectives, but the large number of questions were also directed to specific portions of modules in each of the units in order to identify necessary revisions. Participant opinions about various aspects of the training activities, as well as the total unit were obtained for all the units, but were cast in terms specific to each unit. Reports on the evaluation plan design, instrumentation and results have been reported for the rest of each of the three units (Gall, Oakley and Walker; Gall and York; Otto, Walker, and Jenks). The results are summarized here in very brief form.

Setting Goals. The main field test was started in October 1971 at five sites with a total of 74 trainees who completed the unit and provided data for analysis; two of the sites were in university classes and three were in school districts. Applying predetermined decision standards based on both statistical and training significance, it was concluded that all six of the intended knowledge or cognitive objectives and all three of the affective objectives had been achieved; only one of the four skill objectives was achieved at the standard set, however. Information from the field test was used to revise the unit so that two of the three "failed" skill objectives would more likely be achieved. The third of the "failed" objectives was eliminated from the unit so that no stated or implied claims for this objective would be made in the published form of the unit.

Analyzing Problems. The field test of this unit was conducted in the period March to July 1971 using four different classes of students in a graduate educational administration course at San Francisco State University. The coordinators were three faculty members from the university (the department head served as coordinator in two of the classes); 44 trainees completed the unit and provided data for analysis. Applying the predetermined decision standards

to the data from the study led to the following conclusions: six of eight knowledge objectives, 13 of 16 skill objectives. and both of the major affective objectives had been achieved. Virtually all of the objectives that had not been achieved were the focus of a single module directed to the question "How good is the information that was collected?" It was concluded that the content of this module dealt with issues that were too advanced relative to those covered in the other modules. Since completion of this module was judged to be unnecessary to the successful use of any of the others, the decision was made to eliminate it completely in any published form of the unit.

Deriving Objectives. Two versions of this unit were used in field testing. During the development of the unit, the American Council on the Teaching of Foreign Language (ACTFL) provided funds for the adaptation of the Deriving Objectives unit to meet the needs of foreign language teachers. In this adaptation, Modules 1 and 2 and the programmed text from Module 3 were kept intact. The second half of Module 3 was revised to incorporate problems relevant to foreign language instruction, and Module 4 was eliminated completely since ACTFL and program staff judged it not to be necessary for application of the outcomes of the training in the actual school situations.

The original unit was used in a university course with 12 students, and two school district workshops with a total enrollment of 74; the modified unit was used in two workshops sponsored by ACTFL, one with 65 participants and the other with 168 participants. Following completion of the field test, it was concluded that the unit had been successful in achieving 18 of the 25 knowledge and skill objectives when the predetermined standards were applied. The affective evaluation items were grouped in terms of: (a) values of the training unit; (b) the methodology used in the training; and (c) the probable usefulness of the training. The unit was judged to be successful in all three of these

areas. Only editorial and formating revisions were made in the preparation of copy for publication.

External Evaluation

When the content, editorial, and format revisions necessary as indicated by the field tests had been made, the program staff (Hood) requested and was granted approval to make the Determining Instructional Purposes Package available for sale by the Laboratory on an interim basis. The purpose of this interim release was to obtain information about the effectiveness of the unit in operational use situations for which it had been designed, and to obtain information about the likely market for this unit. Final copy for the entire unit was prepared, printed by the Government Printing Office, and placed on sale by the Laboratory in the summer of 1973. The price of participant materials for any one unit was set at $8.95 per participant; the Coordinator's Handbook cost $4.50. A report on a preliminary marketing study was prepared in 1973 (Educational Management Program, pp. 93-132). Two kinds of studies related to evaluation of the package as published are summarized below.

Independent expert review. In 1972, Educational Testing Service (ETS) conducted a systematic review of completed educational development products for the National Center for Educational Communication (NCEC) of the U.S. Office of Education. For this review, development agencies across the nation were invited to submit completed products to be reviewed for possible award of funds to be used in promotion of product distribution efforts. More than 100 products were submitted for review. All of the products and available evaluation information about each of them were assembled and abstracted by ETS. A panel of ten specialists coming from a variety of interests and disciplines (superintendents, teachers, schools of education, Boards of Education, etc.) reviewed the products and information, and recommended to NCEC those products which they believed

merited the use of federal funds to encourage product dissemination.

The Determining Instructional Purposes Package was one of 23 products chosen for such recommendation, although the dollar support recommendation was contingent on completion of an independent evaluation study. The panel discussion summary included in the recommendation (Educational Testing Service) said:

> "Not only should an absolute evaluation be carried out, but a comparative evaluation with competing products, notably ... Elementary School Evaluation Kit: Needs Assessment and ... Evaluation Workshop I: An Orientation, should be made. The product has the notable and rare feature of showing means and confidence limits as well as gains and probable errors. It appears somewhat more manageable than [the Elementary School Evaluation Kit]. The evaluation of the product was good, but the criteria used could be more rigorously defined via independent comparative evaluation."

External Evaluation study. Late in 1973, partly in response to the recommendation of the ETS panel, planning was started for an independent evaluation of the package. In February 1974 a Request for Proposals (Far West Laboratory, 1974) was sent to seven individuals or agencies who were thought to be qualified and might possibly be interested in submitting a proposal; one of these seven forwarded the RFP to an eighth agency. Three proposals were received and submitted for review and recommendation to two evaluation specialists not associated with the Far West Laboratory and three Laboratory staff members not associated with the Educational Management Program. This review process was described in the RFP, and was conducted as described. The recommendations were not unanimous for any of the proposals, although they did tend to favor one of the contractors; one proposal was clearly eliminated. A subcontract was awarded to Instructional Technology Consultants (ITC) (Hood, April 1974). Their proposed evaluation study had four major phases: (a) to organize and conduct a one week training workshop using the three units to obtain information on attainment of immediate objectives; (b) to do a follow-up study to determine what uses of the training had been made by the workshop participants when they returned to their jobs;

(c) to determine if and how the units had been used by a sample of those who had purchased or otherwise received the units during approximately the first six months they had been on sale; and (d) to obtain expert judgments about the usefulness and quality of the three units with particular attention to comparisons with other training the reviewers judged to be competitive.

Instructional Technology Consultants carried out the study, including the development of information collection devices, specifications for reviewers and questions for product users, in almost complete independence. Progress was reviewed by the program director at the critical dates specified in the proposal. The program director met with the study director, Dr. Howard Sullivan, on two occasions, once before the training workshop was conducted, and once after all data had been collected. The data collection instruments were reviewed in draft form by the program director, but these reviews focused almost entirely on technical measurement or editorial aspects of the instruments. No restrictions were placed on the content of the instruments. Additionally, there were a number of telephone conversations with the study director, but they almost always dealt with discussion and elaboration of alternative procedures proposed by ITC on which advice was sought before final choices were made.

Two reports on the evaluation study were prepared (Instructional Technology Consultants, September 1974; December 1974). The first report was based on the information obtained during the training workshop; the second reported on the entire study, including the workshop. The final report and associated exhibits are included as an attachment to this report on the development and evaluation of the package. Excerpts from the report, and the five generalizations drawn by the external evaluator at the conclusion of the entire study are presented below. The generalizations are taken from Chapter 5 of the final report, which included qualifying statements associated with the conclusions. Portions from

these qualifying statements are also quoted where they appear to suggest important cautions on overgeneralization.

> "A total of 25 participants attended the workshop. Twenty-two of the participants were from school districts in California. The remaining three participants were faculty members from universities in Michigan and Utah ... Pretest mean scores, which ranged from 32 percent on the Setting Goals unit to 41 percent on Analyzing Objectives, indicate that participants could not perform well prior to instruction on the skills taught in the units. Following instruction, the participants performed moderately well (75 percent) on the posttest for Setting Goals and rather poorly (60 percent and 48 percent, respectively) on the posttests for Analyzing Problems and Deriving Objectives. Posttest performance on the units could be considered to be reasonably satisfactory only on Unit 1, Setting Goals. Participant ratings on the Unit Rating Form reflect favorable attitudes toward each of the three units. Positive ratings outnumbered negative ratings by a ratio of more than three to one on Units 1 and 3 and more than two to one on Unit 2." (pp. 5-6; 14-15)

> "Twelve of the 25 workshop participants (48%) and 10 of the 61 purchasers (16%) who returned completed questionnaires had used one or more units with others. The users interviewed by telephone represented 16 different sites and had used the units with approximately 542 school personnel and with 100 graduate students. Unit-related follow-up activities involving the writing of goals and goal indicators or the identification and prioritizing of problems were being conducted at nine of the 16 sites represented in the telephone interviews. Reactions to the units were favorable from 12 of the 16 sites, and none of the 16 users reported reactions that were primarily negative." (p. 31)

> "Reviews of the Determining Instructional Purposes units were obtained from three professional educators, two of whom have done considerable substantive work in the areas covered by the units and a third who had served as a coordinator at the August workshop and who represented a large class of potential users of the units. There was considerable variation in the nature of the comments of the three reviewers and in their reactions to the units. The reactions of one reviewer were consistently very favorable, except that he expressed some concern over the number of competing programs and the bulk of the units. The comments of the other two reviewers were less favorable, even though each of these reviewers reported that he would recommend use of the units for particular training purposes associated with his own work. One of the latter two reviewers generally reacted favorably to the Setting Goals and Analyzing Problems units and unfavorably toward Deriving Objectives. Overall, it seems most accurate to describe the reactions of these two reviewers toward the three units collectively as being neutral to slightly positive. All three reviewers reported that it is very important for school administrators to possess the types of skills taught in the units." (p. 41)

"1. Reactions of future users toward the units are likely to be favorable.

The attitudes of the workshop participants towards the units was consistently favorable...Persons who had used the units with others for training or program development purposes also reported consistently favorable reactions to the units. The collective reactions of the three reviewers was less favorable overall than those of the workshop participants or persons who had used the units with others. However, one of the reviewers was very positive in his evaluation of the units, and each of the other two asserted that he would recommend their use for particular training purposes associated with his own work." (p. 43)

"2. In most instances, the units are not likely to be used as intended by the developers.

The manner in which users proceeded through a unit also typically varied from the procedures described in the Coordinator's Handbook. Only three of the 16 users interviewed by telephone reported that they had used one or more intact units and had closely followed the procedures from the Handbook." (pp. 43-44)

"3. The more general terminal outcome for each unit is the most important unit outcome and can be attained without mastering many of the instructional objectives for the unit.

In the evaluator's judgment, the general outcome for each unit, as contrasted with many of the instructional objectives, represents an outcome that is very important to many school personnel. The procedures described in the units, particularly Units 1 and 2, are appropriate methods for users to follow in order to attain the general outcomes. Users working toward this goal should be able to refer directly to the procedures in the units....Thus it seems appropriate for users who want to do so to use only the content of the unit that directly involves procedures...and to by-pass the other reading material and self-tests....The above generalization...appears to conflict with statements by all three reviewers that it is very important for school administrators to possess the types of skills taught in the units--at least to the extent that the reviewers were referring to the skills represented by the instructional objectives." (pp. 44-46)

"4. The present format and cost of the units are not conducive to sales.

...multiple copies of the units were purchased for use at only one of the 16 sites represented by users interviewed in this study. The other individuals who used multiple copies of one or more units purchased a single copy and reproduced copies from it." (pp. 46-47)

"5. If the decision is made to publish and disseminate the units, the Laboratory should consider the desirability of deleting the Deriving Objectives unit.

> Two of the three reviewers expressed rather strong concerns about the Deriving Objectives unit ... One reviewer also noted that more and better competing products are available on the topic of developing instructional objectives than in the areas covered by the other units. The evaluator shares the perception that the Deriving Objectives unit is not as strong as the other two units ... The part of the Deriving Objectives unit that did consistently receive favorable comments from the reviewers was the programmed text. If the decision is made to not publish and disseminate the unit, consideration could be given to marketing the programmed text as a separate item." (pp. 47-48)

Conclusion

It seems evident that the major investment of effort over five years in the meticulous development and testing of a rather novel product resulted in the creation of three potentially quite valuable training units. The particular strength of the units seems to be in the introduction of participants to processes they can use as they consider and write program goals and objectives in their own schools. The units appear to be relatively ineffective in fostering the development of specific skills, and are probably more verbose than desirable for efficient training. One more quite major revision of each of the three units should be made to realize fully the potential value of the units. In the case of Unit 3 - Deriving Objectives - a complete restructuring of the unit is probably necessary. It seems equally evident that one more revision is needed.

No funds are presently available to support such a revision, however, and the remainder of the interim inventory produced by the Laboratory is relatively small. Thus, no further plans for work on or distribution of this unit can be outlined, other than to distribute the remainder of the inventory in the public domain for school personnel to use in such ways as seem appropriate to them.

REFERENCES

Banathy, B.H. and Jenks, C.L. "Conceptualization and plans, instructional planning and management system" Berkeley, Ca.: Far West Laboratory for Educational Research and Development, October 1970.

Carlisle, D., Cone, P., and Whitney, B. "The instructional planning team: an organizational arrangement to accomplish planning, teaching, and evaluation in a school: a pilot study" Berkeley, Ca.: Far West Laboratory for Educational Research and Development, 1971.

Communication Program. "Task concept outline proposal" Staff memorandum, January 1970.

_____. "Task concept outline proposal, goal setting" Staff memorandum, March 1970.

Educational Management Program. "End of year progress report on 1973 scope of work" San Francisco, Ca.: Far West Laboratory for Educational Research and Development, November 1973.

Educational Testing Service. "Dissemination recommendations on and descriptions of exemplary products" Princeton, N.J., April 1973.

Far West Laboratory for Educational Research and Development, "Contractor's request for continued funding" Berkeley, Ca.: September 1969.

_____, "Contractor's request for 1971 funding" Berkeley, Ca.: September 1970.

_____, "Request for Proposal: External Evaluation of three educational management products" San Francisco, Ca.: February 1974.

Gall, J.P., Oakley, G.M., and Walker, J.N. "Progress report on goal setting training unit: performance field test" Berkeley, Ca.: Far West Laboratory for Educational Research and Development, August 1972.

_____, and Walker, J.N. "Problem analysis and goal setting training units: report on conceptualization, feasibility, and preliminary field test stage" Berkeley, Ca.: Far West Laboratory for Educational Research and Development, September 1971.

_____, and York, L.J. "Progress report on problem analysis training unit: performance field test stage" Berkeley, Ca.: Far West Laboratory for Educational Research and Development, February 1972.

Hood, P.D. "Request for interim release of a developmental product from the Educational Management Program" Staff memorandum, November 1972.

_____ "Recommendation for the award of a contract in response to the Laboratory's RFP for an external evaluation of the Determining Instructional Purposes training units" Staff memorandum, April 1974.

Instructional Technology Consultants. "Workshop report - external evaluation of determini

_____. "Final report, external evaluation of determining instructional purposes training units" Scottsdale, Ar., December 1974.

Jenks, C.L. "Reactions from first four interviews of school personnel" Staff memorandum, October 1969.

_____, and Gall, J.P. "Interview data" Staff memorandum, October 1969.

Otto, J.G., Walker, J.N. and Jenks, C.L. "Main field test report: deriving objectives training unit" Berkeley, Ca.: Far West Laboratory for Educational Research and Development, November 1972.

York, C.J. (compiler) "Coordinating conference on educational planning and management: a report of outcomes" Berkeley, Ca.: Far West Laboratory for Educational Research and Development, 1970.